

ITOH
Appl. No. 10/724,710
September 18, 2006

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Figs 1 and 2. . This sheet, which includes Figs. 1-3, replaces the original sheet including Figs.1-3 . In Figures 1 and 2, reference numeral 32 has been deleted.

Attachment: Replacement Sheet(s)
Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

Claims 1-4 are present in this application. By this Amendment, the specification, Figs. 1 and 2, and claims 1-4 have been amended. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The drawings were objected to for including reference numeral 32 without a description in the specification. The drawings have been amended herein to eliminate reference numeral 32. An annotated sheet and a replacement sheet are attached. Withdrawal of the rejection is requested.

Claims 1-4 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,138,868 to Yuyama et al. in view of U.S. Patent No. 4,567,997 to Portyansky. This rejection is respectfully traversed.

The present invention is directed generally to providing an automatic dispensing tip supply apparatus. Important objectives of the invention, without limitation, include removing randomly inserted dispensing tips one-by-one and supplying them to a position for use, and delivering the dispensing tips without fear that the dispensing tips will be carried out overlapping each other. In this context, with reference to the present specification, if there are two or more dispensing tips 1 lifted up overlapping each other by the mechanism 20, the large-diameter proximal end portion 1a of each dispensing tip 1 will project from the V-shaped groove 43 of the tip holding section (43, 44). See page 6, line 19 - page 8, line 19. The center of gravity of each dispensing tip 1 therefore inclines toward the inside of the box 10. Consequently, the dispensing tip 1 drops again toward the bottom of the box 10 when the lifting plate 21 descends even though the distal end of the tip 1 is inserted into the V-shaped groove 43.

If there are one or more dispensing tips 1 lifted up in an upright position by the mechanism 20, they do not enter the V-shaped groove 43. The center of gravity of each dispensing tip 1 also therefore inclines toward the inside of the box 10. Consequently, the dispensing tip 1 drops again toward the bottom of the box 10 when the lifting plate 21 descends.

As a consequence, as shown in Fig. 5A, only one dispensing tip 1 is lifted up lying on its side by the lifting plate 21 as indicated by arrow U and its greater part 1b, excluding the large-diameter proximal end portion 1a, is inserted into the V-shaped groove 43 of the tip holding section (43, 44) provided in parallel to the door 42. The center of gravity of the dispensing tip 1 is maintained in the tip holding section (43, 44). The dispensing tip 1 continues to be held by the tip holding section even though the lifting plate 21 descends as indicated by arrow D in Fig. 5B.

When the door mechanism 40 operates and the door 42 opens as shown in Fig. 5C, the dispensing tips 1 held by the tip holding section are discharged from the outlet 31. The discharged dispensing tips 1 are automatically carried one-by-one out of the box 10 through the carry-out conveyor 33 and supplied to the position for use.

In contrast with the claimed invention, neither Yuyama nor Portyansky endeavors to supply randomly inserted dispensing tips one-by-one to a position for use without overlapping the tips. Rather, Yuyama aims to discharge ampules one-by-one without the possibility of clogging. The ampules are never overlapped since they do not have an opening. As noted in the Office Action, Yuyama does not disclose a door “turnably” supported to selectively release the tips to a conveyor and further wherein the tip holding section of the door mechanism includes a V-shaped groove. Yuyama additionally lacks the tip having a large-diameter section and a small-diameter section, where the small-diameter section is able to be inserted into an opening of

the large-diameter section, and the length of the small-diameter section is larger than the length of the large-diameter section.

The door 42 of Portyansky provided with a groove 44 along its entire length is pivotably mounted on the front plate 32 via pin 46 that is journalled in the front plate 32 and secured to the rotary plate 42. See Fig. 1. A plate 42 is normally maintained in the horizontal position with groove 44 in juxtaposition with slot 30 by means of a spring 48 secured at one end to plate 42 by a screw 50, and secured at its other end to the frame bottom wall 52 by a screw 51. A stick 28 is fit along the hopper rear wall 16 by gravity through slot 30 into the groove 28 in plate 42 when the plate is aligned with slot 30. The stick 28 and plate 42 may be said to be in a “rest” position at this time, an extremity of the stick being supported by a flanged support element 54 secured to a lower front plate 56 coupled to the side walls of frame 14 (see column 2, lines 19-35).

In contrast with the contentions in the Office Action, Portyansky also does not teach a door mechanism including a tip holding section that is provided on an inside of the door to horizontally hold the small-diameter section of one of the dispensing tips lifted up to the output by the tip individually-sending mechanism. Portyansky additionally lacks a V-shaped groove that is formed in the door having a size to hold the small-diameter section from one of the dispensing tips, and a tip stopping piece to hold one of the tips lifted up to the outlet by the tip individually-sending mechanism within the V-shaped groove where the door closes.

In view of at least these distinctions, Applicant respectfully submits that the rejection is misplaced.

With regard to dependent claims 2-4, Applicant submits that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

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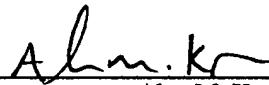
In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims are patentable over the art of record and that the application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Prompt passage to issuance is earnestly solicited.

Respectfully submitted,

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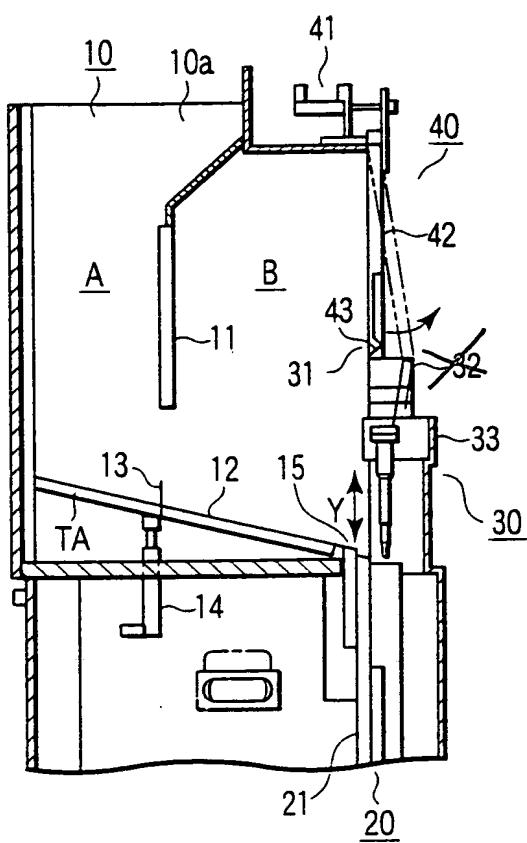


FIG. 1

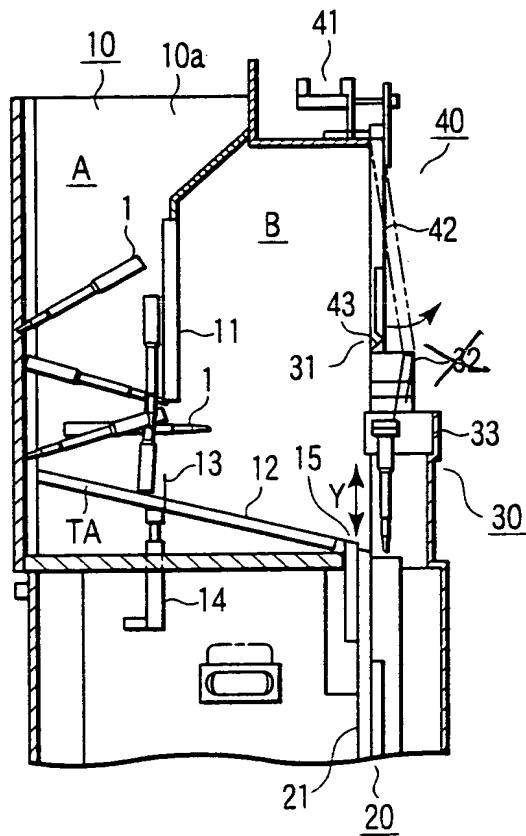


FIG. 2

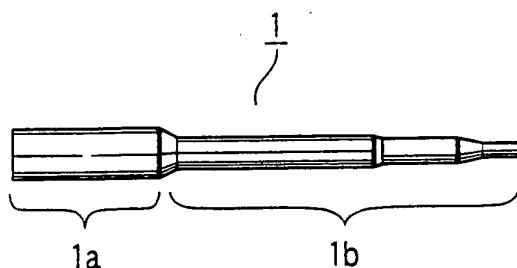


FIG. 3